UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,696	08/15/2001	David L. Patton	82698F-P	1618

7590 09/08/2004

Milton S. Sales
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201

EXAMINER	
JOHNS, ANDREW W	

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/930,696	Applicant(s) PATTON ET AL.	
	Examiner Andrew W. Johns	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) *12-17 and 19-24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4,5*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *6* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. § 121:

I. Claims 1-11 and 18, drawn to printing and verifying authentic documents, classified in class 382, subclass 100.

II. Claims 12-17, drawn to a kit for making authenticable documents, classified in class 283, subclass 79.

III. Claims 19-24, drawn to making a media to be used in making an authenticable document, classified in class 428, subclass 409.

2. The inventions are distinct, each from the other because of the following reasons:

a. Inventions II and I are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case the product of group II (i.e., the kit) can be used to print a document without the details of the printing and verification steps set forth in the method of group I.

b. Inventions III and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (M.P.E.P. § 806.05(f)). In the instant case the product of group II does not require a three-

dimensional physical indicia identifier and could be made using any printing technique that provides a physical indicia identifier on the media.

c. Inventions I and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as printing and verifying documents that do not have a three dimensional physical indicia identifier. See M.P.E.P. § 806.05(d).

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Frank Pincelli on 24 August 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-11 and 18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-17 and 19-24 are withdrawn from further consideration by the examiner, 37 C.F.R. § 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(i).

Specification

6. The reference to the co-pending application at lines 13-14 on page 11 of the specification is incomplete. Applicant should amend this reference to include the Application S.N., filing date, and current status (if abandoned or issued) of the co-pending application.

Claim Rejections - 35 U.S.C. § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 9-11 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation of "said physical indicia identifier" at lines 3 and 10 of claim 9 is indefinite as there is no recitation of any such "physical indicia identifier" in any of the preceding claim language to provide proper antecedent support for this recitation. Therefore, it is unclear what identifier is referred to by this claim language and the claim fails to clearly point out applicant's invention.

In claim 10, the recitation of "said digital file" at line 20 is ambiguous, as it could refer to either the "digital text file," or the "digital file of said physical indicia identifier," which are both previously recited in the preceding claim language. Because it is not clear which file is referred to by this language, the claim fails to clearly point out applicant's invention. In addition, the preceding claim language also fails to provide proper antecedent support for the recitation of "said recorded message" at line 23 of claim 10, so that it is unclear what is referred to by this

claim language as well. Claim 11 is dependent from claim 10, so that claim 11 is similarly indefinite.

Claim Rejections - 35 U.S.C. § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 8 and 18 are rejected under 35 U.S.C. § 102(b) as being anticipated by Denenberg et al. (US 5,521,984 A).

With respect to claim 8, Denenberg et al. teaches a method for verifying if a candidate document (the objects verified by Denenberg et al. can include security dependent documents; column 7, line 41) on a sheet of media is an original document (column 3, lines 31-40), said media having a physical indicia identifier (i.e., unique intrinsic features; column 3, lines 13-30) and an identification number (i.e., a system catalog number; column 6, lines 53-55), said physical indicia identifier having an associated digital scan file of said physical indicia identifier that has been stored on a memory storage device separate from said sheet of media (column 5, lines 36-54), the method including scanning said physical indicia identifier on said candidate document so as to obtain a digital scan file (column 6, lines 44-47); obtaining said associated digital scan file using said identification number (column 6, lines 53-59); and comparing said digital scan file with said stored associated digital file stored on said memory device for verifying if said candidate document is an original (column 6, line 60 through column 7, line 7), as stipulated by claim 8.

In addition, Denenberg et al. also teaches a system for verifying that a candidate document is an original document (column 3, lines 31-40), including a scanner for scanning said candidate document (the objects verified by Denenberg et al. can include security dependent documents; column 7, line 41) for obtaining a high resolution scan of a physical indicia indicator formed on said document (column 6, lines 44-47), said document having an identification number associated with a stored high resolution scan of said physical indicia identifier (i.e., "a system catalog number for the item"; column 6, lines 53-55); and a computer for accessing said stored high resolution scan using said identification number (column 6, lines 56-59) and for comparing the high resolution scan obtained by scanning with said stored high resolution scan for verification that said candidate document is said original document (column 6, line 60 through column 7, line 7), as stipulated by claim 18. Therefore, Denenberg et al. variously meets each of the limitations of claims 8 and 18 and anticipates the claimed invention.

Claim Rejections - 35 U.S.C. § 103

11. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Tel (US 5,354,097 A).

With respect to claim 9, Tel teaches a method for verifying if a candidate document on a sheet of media is an original document (i.e., the document in question is a passport; see column 5, lines 1-37), including the steps of obtaining a high resolution scan (column 3, lines 50-51;

scan is obtained using a high-resolution camera) of a physical indicia identifier that is present on a sheet of media that it to be used to create an original document (column 5, lines 8-11; the pattern of the fibers is scanned) so as to create a scan digital file (i.e., a scan digital file is created by data conversion, compression and encryption; column 5, lines 11-13); storing said digital scan file on a memory storage device (column 5, lines 13-17); scanning said physical indicia identifier on a candidate document (column 5, lines 29-21) so as to obtain a second digital file (i.e., by data conversion, compression and encryption; column 5, lines 21-22); and comparing said second digital file with said first digital file (column 5, lines 23-26). While Tel does teach that the sheet of media has an identification number printed on it (i.e., alphanumeric code 16 in Figure 2; column 5, line 3), Tel fails to specifically teach that the digital scan file is associated with this identification number or that text is printed on the media to form said original document, as further stipulated by claim 9. However, because the digital scan file associated with the physical indicia identifier is stored separately from the document, some form of identification of the file is require in order to access the appropriate scan file for comparison when a candidate document is presented for authentication. Because passports conventionally include a unique identification number (represented in Tel by 16 in Figure 3), it would have been obvious to one of ordinary skill in the art to associate the passport ID number with the corresponding digital scan file to quickly and conveniently access the file for comparison with a second digital scan file during authentication of the passport document. Further, while not explicitly described in detail in Tel, passports also conventionally include additional text data printed thereon, including the name of the passport holder, their citizenship, residence, age, place of birth, etc. One of ordinary skill in the art would have readily recognized that such text data would need to be printed on the passport document of Tel in order for the passport to meet the

conventional requirements for such a document. Therefore, while Tel fails to specifically describe every feature of the claimed invention, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

13. Claims 1-3, 5-6 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lawandy et al. (US 2001/0037455 A1), in view of Tel (US 5,354,097 A) and Zhao et al. (US 6,243,480 B1).

With respect to claims 1 and 10, Lawandy et al. teaches a method for making an authenticable original document on a sheet of media (such as a passport; paragraph [0061]), said sheet of media having a physical indicia identifier (paragraph [0033]), including obtaining a high resolution scan (paragraph [0064]) of the physical indicia identifier (paragraph [0061], lines 5-7), storing the data representing the physical indicia identifier in memory (paragraph [0060], lines 18-24), creating a distilled text file for the document (i.e., semantic information 20 in Figure 1), creating a dispersed message using the data representing the physical indicia identifier and the distilled text file (i.e., a digital watermark; 30 in Figure 1), and printing the dispersed message along with the text on the sheet (i.e., forming the watermarked image 40 in Figure 1).

With respect to claims 5 and 10, Lawandy et al. teaches a method for verifying if a document on a sheet of media is an original document, said document having text (i.e., semantic information 20 in Figure 1), a dispersed message (i.e., a digital watermark 30 in Figure 1) and a physical indicia identifier (paragraph [0033]) thereon, including scanning said document so as to obtain a digital file of the physical indicia identifier (i.e., the "taggants"; paragraph [0063], lines 12-15), and said dispersed message (i.e., "watermark"; paragraph [0063], lines 12-15); and correlating the physical indicia identifier data with the dispersed message to obtain first

recovered data (i.e., the physical characteristic data serves as a key to access information included in the digital watermark; paragraph [0032]).

However, while Lawandy et al. broadly teaches the use of physical indicia identifiers together with dispersed message data to authenticate documents, Lawandy et al. does not provide a detailed discussion of many of the features or elements of such methods, and in particular fails to specifically teach a number of limitations of the claimed invention. In particular, Lawandy et al. fails to teach that the media sheet includes an identification number printed thereon, creating a digital file of the high resolution scan of the physical indicia identifier, associating the digital file with the identification number printed on the sheet, or creating a text file to be printed on the sheet, as additionally required by claims 1 and 10. Lawandy et al. also fails to stipulate that the memory device that stores the digital file is a CD or an electronic E-mail address, as further stipulated by dependent claims 2 and 3.

Tel teaches a method for authenticating documents, such as passports by obtaining high resolutions scan data (column 3, lines 50-51; scan is obtained using a high-resolution camera) of a physical indicia identifier (column 5, lines 8-11; the pattern of the fibers is scanned) and creates a digital file of the high resolution scan data (i.e., a scan digital file is created by data conversion, compression and encryption; column 5, lines 11-13); and storing the digital file in a memory (column 5, lines 13-17). Tel further teaches the sheet includes an identification number printed thereon (i.e., alphanumeric code 16 in Figure 2; column 5, line 3; which represents a passport ID number), and also teaches that the memory device is a CD (i.e. an optical WROM, which is conventionally a CD-R; column 5, lines 15-17). While Tel also fails to specifically teach that the digital scan file is associated with the identification number on the sheet, some form of identification of the file is require in order to access the appropriate scan file from the

memory for comparison when a candidate document is presented for authentication. Therefore, Tel suggests the association of the digital file with the identification number printed on the document. Further, while not explicitly described in detail in Tel, passports also conventionally include additional text data printed thereon, including the name of the passport holder, their citizenship, residence, age, place of birth, etc. One of ordinary skill in the art would have readily recognized that such text data would need to be generated for the document. Finally, Tel also suggests that the memory device be a central memory accessed by means of data communication (column 5, lines 27-29). While Tel doesn't specifically mention the use of E-mail, the use of E-mail as a data communication technique to communicate with central computers/memories is extremely conventional, so that one of ordinary skill in the art would have found it obvious that the data communication suggested by Tel could be implemented using readily available E-mail software.

Because both Tel and Lawandy et al. specifically discuss the use of physical indicia identifiers to authenticate passports, and because Tel provides the details of how these identifiers can be used to detect/prevent passport forgeries (Abstract, lines 1-2), it would have been obvious to one of ordinary skill in the art to use the teachings and suggestions of Tel to authenticate the passports in Lawandy et al. and to detect forgeries therein.

Additionally, Lawandy et al. further fails to specifically teach the details of distilling the text file created for the document and creating the message image using the distilled file, as stipulated by claims 1 and 10, or obtaining a text file by scanning the candidate document, distilling the text file and comparing the distilled text data with the data recovered from the dispersed message, as stipulated by claims 5 and 10. Lawandy et al. also fails to teach that the

common data obtained from the dispersed message and distilled text is a message image, as further required by dependent claims 6 and 7.

Zhao et al. teaches the use of semantic digests to authenticate the contents of physical documents (see the abstract). Specifically, Zhao et al. teaches distilling a text file by applying a hashing function and/or encryption to obtain a semantic digest that represents the content of the text file (column 5, lines 19-38; column 6, lines 20-55) and creating a message image (i.e., a watermark) using the distilled text file (column 7, lines 28-29) which is then printed together with the text file to create the document (column 7, lines 30-33; column 8, lines 2-5). To verify the document contents, the watermark is recovered from the image and the semantic digest is recovered (column 7, lines 33-35; column 8, lines 24-28); distilling the digital text file obtained by scanning the document (OCR software recognizes the characters in the image data; column 8, lines 31-33; and a new semantic digest is derived from the OCR output; column 8, lines 38-42), and comparing the two semantic digests to determine if the document is an authentic original (column 8, lines 43-48). Zhao et al. further teaches that the comparison is made by comparing message images (i.e., the semantic digests; column 8, lines 43-48).

Because both Lawandy et al. and Zhao et al. teach the use of watermarks to convey semantic contents of documents to be authenticated, and because Zhao et al. provides a detailed explanation of the use of such watermarking to authenticate the text contents of a document in order to detect/prevent alteration of documents,), it would have been obvious to one of ordinary skill in the art to use the teachings and suggestions of Zhao et al. to authenticate the documents of Lawandy et al. and to detect alterations therein. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

14. Claims 4 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lawandy et al., Tel, and Zhao et al. as applied to claims 1-3, 5-6 and 10 above, and further in view of Honsinger et al. (US 6,044,156 A).

While Lawandy et al., Tel and Zhao et al. each variously teaches or suggests many of the features of the claimed invention, as pointed out more fully above, none of these specifically teaches that the combining of the message image and the high resolution scan file is performed by convolution operation, as further required by claims 4 and 11.

Honsinger et al. shows that it is know to combine a message image (12 in Figure 1) with a carrier image or signal (10 in Figure 1) by convolving the two images (14 in Figure 1). Because the use of such a convolution operation distributes the message information throughout the spatial extent of the scrambled image, allowing it to be embedded invisibly (column 3, lines 49-60), it would have been obvious to one of ordinary skill in the art to use such convolution operations to generate the dispersed image to be printed on the document in the Lawandy et al. system so as to improve its invisibility on the document. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

Notice to Applicant

15. The papers filed on 24 January 2002 (certificate of mailing dated 30 October 2001) and on 20 February 2002 (certificate of mailing dated 01 February 2002) have not been made part of the permanent records of the United States Patent and Trademark Office (Office) for this application (37 C.F.R. § 1.52(a)) because of damage from the United States Postal Service irradiation process. The above-identified papers, however, were not so damaged as to preclude the USPTO from making a legible copy of such papers. Therefore, the Office has made a copy of these papers, substituted them for the originals in the file, and stamped that copy:

COPY OF PAPERS
ORIGINALLY FILED

If applicant wants to review the accuracy of the Office's copy of such papers, applicant may either inspect the application (37 C.F.R. § 1.14(d)) or may request a copy of the Office's records of such papers (*i.e.*, a copy of the copy made by the Office) from the Office of Public Records for the fee specified in 37 C.F.R. § 1.19(b)(4). Please do **not** call the Technology Center's Customer Service Center to inquiry about the completeness or accuracy of Office's copy of the above-identified papers, as the Technology Center's Customer Service Center will **not** be able to provide this service.

If applicant does not consider the Office's copy of such papers to be accurate, applicant must provide a copy of the above-identified papers (except for any U.S. or foreign patent documents submitted with the above-identified papers) with a statement that such copy is a complete and accurate copy of the originally submitted documents. If applicant provides such a copy of the above-identified papers and statement within **THREE MONTHS** of the mail date of this Office action, the Office will add the original mailroom date and use the copy provided by applicant as the permanent Office record of the above-identified papers in place of the copy made by the Office. Otherwise, the Office's copy will be used as the permanent Office record of the above-identified papers (*i.e.*, the Office will use the copy of the above-identified papers made by the Office for examination and all other purposes). This three-month period is not extendable.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kaish et al. encodes a document with data from a physical indicia identifier (i.e., fluorescent fibers) present in the document substrate. Melen, Knop, and Brosow et al. each teaches recording data related to a physical indicia identifier for a document substrate for later authentication of the document, while van Renesse discusses the use of paper fiber patterns to authenticate documents.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Johns whose telephone number is (703) 305-4788. The examiner in normally available Monday through Friday, at least during the hours of 9:00 am to 3:00 pm Eastern Time. The examiner may also be contacted by e-mail using the address: andrew.johns@uspto.gov. (Applicant is reminded of the Office policy regarding e-mail communications. See M.P.E.P. § 502.03)

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Leo Boudreau, can be reached on (703) 305-4706. The fax phone number for this art unit is (703) 872-9306. In order to ensure prompt delivery to the examiner, all unofficial communications should be clearly labeled as "Draft" or "Unofficial."

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center Receptionist whose telephone number is (703) 305-4700.

5

A. Johns
28 August 2004

ANDREW W. JOHNS
PRIMARY EXAMINER